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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,665	01/10/2005	Eiji Muramatsu	46970-5256	9383

55694 7590 08/22/2008

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EXAMINER	
CHOWDHURY, NIGAR	
ART UNIT	PAPER NUMBER
2621	

MAIL DATE	DELIVERY MODE
08/22/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/520,665	MURAMATSU ET AL.	
	Examiner	Art Unit	
	NIGAR CHOWDHURY	2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 January 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 January 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *5/19/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed on 01/31/2008 have been fully considered but they are not persuasive.

2. In re pages 2-3, applicant argues that Hamada fails to disclose a direction of an optical beam to the optical information recording medium 10. Hamada discloses "the substrate 12, recording layer 14 and cover layer 14 are disposed in this order from the side where optical beam is applied" and the application direction of the optical beam for recording is "upward" in fig. 2, recited in claim 1.

In response, the examiner respectfully disagrees. Hamada discloses from paragraph 0006-0009 that "...a reflecting layer through an enhancing layer in the field side of another side of this light absorption layer, and the guide rail is formed in the field by the side of the light absorption layer of this translucency substrate. The light absorption layer has entered in this guide rail, and the thickness of the light absorption layer of the part which has entered in the guide rail is thicker than the thickness of the light absorption layer of the part which is in contact with the land part besides this guide rail....thickness of the enhancing layer.... has entered in the guide rail of a translucency substrate ..... Enhancing layer.....which has entered in the guide rail may be projected to this guide rail side..... the depth .... Guide rail of a translucency substrate.....depth of flute .... Formed in the field by the side of the reflecting layer of the enhancing layer which covers the light absorption layer..... the depth of flute .....

formed in the field by the side of the enhancing layer of the light absorption layer in a guide rail..... light absorption layer of the part which has entered in the guide rail is thicker than the thickness of the light absorption layer of the part which is in contact with the land part besides the guide rail in this invention .... the laser beam for record absorbed by the light absorption layer of the part which has entered in the guide rail increases, the variation of the variation of the organic coloring matter contained in the light absorption layer of the part which has entered in the guide rail increase ....." Hamada discloses an optical beam passing from the cover layer through light absorption layer. The depth of flute de is formed in the side of the reflecting layer which covers the enhancing layer; the depth of flute da is formed in the side of the enhancing layer which covers the light absorption layer; the depth of flute ds of guide rail is formed in the field by the side of the light absorption layer of the translucency substrate. Therefore, Hamada discloses cover layer, recording layer and substrate are disposed in this order from the side where optical beam is applied. Furthermore, no where in Hamada discloses the application direction of the optical beam for recording is **upward** in fig. 2.

3. Claims 2-3 are rejected for the same reason as discussed in the corresponding paragraph 2 above.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by JP 06-282871 by Hamada et al.

5. Regarding **claim 1**, Hamada discloses an information recording medium comprising:

- a substrate on which the grooves are formed (fig. 2 (12), paragraph 6-9, 11);
- a recording layer to which an optical beam is applied (fig. 2 (14), paragraph 6-9, 11);
- a cover layer for protecting recording layer (fig. 2 (20), paragraph 6-9, 11),
    - wherein the thickness of cover layer is thinner than the thickness of substrate (fig. 2, paragraph 11, 23, 27);
    - wherein cover layer, recording layer and substrate are disposed in this order from the side where optical beam is applied (fig. 2, paragraph 11)
    - wherein the thickness of recording layer formed in an area opposed to groove and forming a recording track on which the information is recorded is greater than the thickness of recording layer formed in an area opposed to an area between two adjacent grooves on substrate (fig. 2, paragraph 6-9, 11).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 2, 3/2 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 06-282871 by Hamada et al. in view of JP 2002-008269 by Kikuchi Minoru

7. Regarding **claim 2**, Hamada discloses substrate, reflecting layer, recording layer, cover layer (fig. 2, paragraph 11) but fails to disclose the information recording medium wherein a reflecting layer for reflecting optical beam is disposed between recording layer and substrate, and recording layer is formed on reflecting layer provided on substrate by a spin coat method.

Kikuchi discloses the information recording medium wherein a reflecting layer for reflecting optical beam is disposed between recording layer and substrate, and recording layer is formed on reflecting layer provided on substrate by a spin coat method (paragraph 31-34).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the proposed combination of Hamada's system to include reflecting layer, as taught by Kikuchi, in between recording layer and substrate to reduce the interference of recording.

8. Regarding **claim 3/2**, Hamada discloses depth of groove and the thickness of recording layer, Kikuchi discloses reflecting layer between recording layer and substrate but both fail to disclose the information recording medium wherein the depth of groove and the thickness of recording layer forming recording track are set up such that –360 degree<theta0, theta1<-180 degree, and theta0<theta1

where the phase in the reflected light of optical beam from recording track on which information is not recorded is theta0, the phase in the reflected light of optical beam from recording track on which information is recorded is theta1, and the phase in the reflected light of optical beam from an area on substrate between two adjacent grooves for information recording medium on which information is not recorded is 0degree.

It is noted that the use of change in angle is old and well-known in the recording art. Therefore, official notice is taken. Moreover, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a well-known change in angle of recording layer for optical beam to find out information recorded recording track and non information recorded recording track

9. Claim 3/1 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 06-282871 by Hamada et al.

10. Regarding **claim 3/1**, Hamada discloses depth of groove and the thickness of recording layer but fails to disclose the information recording medium wherein the depth

of groove and the thickness of recording layer forming recording track are set up such that –360 degree<theta0, theta1<-180 degree, and theta0<theta1

where the phase in the reflected light of optical beam from recording track on which information is not recorded is theta0, the phase in the reflected light of optical beam from recording track on which information is recorded is theta1, and the phase in the reflected light of optical beam from an area on substrate between two adjacent grooves for information recording medium on which information is not recorded is 0degree.

It is noted that the use of change in angle is old and well-known in the recording art. Therefore, official notice is taken. Moreover, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have a well-known change in angle of recording layer for optical beam to find out information recorded recording track and non information recorded recording track

11. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over JP 06-282871 by Hamada et al. in view of US Patent No. 7,287,167 by Sako et al.

12. Regarding **claim 4**, Hamada discloses an information recording apparatus for recording information on the information recording medium which comprising:

- a substrate on which the grooves are formed (fig. 2 (12), paragraph 6-9, 11);

- a recording layer to which an optical beam is applied (fig. 2 (14), paragraph 6-9, 11);
- a cover layer for protecting recording layer (fig. 2 (20), paragraph 6-9, 11),
    - wherein the thickness of cover layer is thinner than the thickness of substrate (fig. 2, paragraph 11, 23, 27);
    - wherein cover layer, recording layer and substrate are disposed in this order from the side where optical beam is applied (fig. 2, paragraph 11)
    - wherein the thickness of recording layer formed in an area opposed to groove and forming a recording track on which the information is recorded is greater than the thickness of recording layer formed in an area opposed to an area between two adjacent grooves on substrate (fig. 2, paragraph 6-9, 11).

Hamada fails to disclose

- an encoder device for encoding information to generate the encoded information;
- a modulation device for modulating optical beam based on generated encoded information;
- and a radiation device for radiating modulated optical beam to recording track from the side of cover layer to record information.

Sako discloses

- an encoder device for encoding information to generate the encoded information (fig. 1, col. 7 lines 16-59);
- a modulation device for modulating optical beam based on generated encoded information (fig. 1, col. 7 lines 16-59);
- and a radiation device for radiating modulated optical beam to recording track from the side of cover layer to record information (fig. 1, col. 7 lines 16-59).

It would have been obvious to one of ordinary skill in the art at the time of applicant's invention to modify the proposed combination of Hamada's system to include encoder, modulation, and radiation device, as taught by Sako, to record encoded information in a recording medium for user to retrieve information as user desired.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NIGAR CHOWDHURY whose telephone number is (571)272-8890. The examiner can normally be reached on 9 AM - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thai Tran can be reached on 571-272-7382. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NC
08/15/2008

/Thai Tran/
Supervisory Patent Examiner, Art Unit 2621